



Docket No.: 070795-0013

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of : Customer Number: 20277
Masahito TADA, et al. : Confirmation Number: 7124
Application No.: 10/528,654 : Group Art Unit: 1713
Filed: March 22, 2005 : Examiner: Wu, Ives J.

For: PROCESS FOR PREPARING POLYVINYLIDENE FLUORIDE COPOLYMER

DECLARATION UNDER 37 C.F.R. § 1.132

Mail Stop RCE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

I, Hiroshi Sakabe, hereby declare and say as follows:

1. My *Curriculum Vitae* is attached.
2. I am a person having ordinary skill in the art as evidenced by my *Curriculum Vitae*.
3. The following experiment was conducted by the undersigned.
4. A polyvinylidene fluoride copolymer, which has an identical composition to that described in Example 6 of the above captioned application, beginning at page 22 of the specification, was polymerized by emulsion polymerization.
5. 600g of ion exchange water, 1.5g of perfluorooctanoic acid ammonium salt, 3.0g of disodium hydrogen orthophosphate, 90g of vinylidene fluoride, 22.5g of tetrafluoroethylene and 37.5g of hexafluoropropylene were charged into a vacuumed autoclave of 1 liter in capacity. The charged molar ratio vinylidene fluoride / tetrafluoroethylene / hexafluoropropylene was

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75/12/13. After the autoclave was heated up to 80° C, 0.15g of ammonium persulfate was charged to initiate polymerization reaction.

6. After completion of polymerization, stable copolymer emulsion was obtained and sedimentation of polymer was not observed. Since the copolymer, after the emulsion polymerization ,was emulsified and no copolymer particles were observed to float or precipitated, it was necessary to generate copolymer particles by adding water solution of inorganic salt such as CaCl₂. After coagulation with CaCl₂ solution, the copolymer particles were isolated and washed with water and dried at 80° C for 20 hours in an oven.

7. The dried copolymer produced above was dissolved in dimethylformamide (DMF) at 50° C for 1 hour, as described in present specification. See pages 10 and 23-24. A uniform solution with pale yellow was obtained and sedimentation of copolymer was not observed.

8. In accordance with the method described in the specification at pages 22-23, the scattered light intensity was measured. Intensity of blank sample was 4.12×10^3 counts/sec. and intensity of the sample was 1.16×10^5 counts/sec. Therefore, the I/I_o was calculated as 28.2.

9. The undersigned hereby declares that all statements made herein based upon knowledge are true, and that all statements made based upon information and belief are believed to be true; and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

September 11, 2006

Date

Hiroshi Sakabe

Hiroshi Sakabe

Curriculum Vitae

1. I, Hiroshi SAKABE, am a citizen of Japan and a resident of 907-31 Hirakata-chou, Kitaibaraki-shi, Ibaraki-ken 974-1701 Japan.
2. In March 1987, I received my Bachelor of Engineering degree in Applied Physics from the Faculty of Engineering of Tokyo University in Japan. In February 1996, I received my Doctor of Philosophy degree in Physical Chemistry from the Faculty of Science of Bristol University in England.
3. Since April 1988, I have been employed at Kureha Corporation (Its former name was Kureha Chemical Industry Company Limited.) I had conducted research, development, engineering and quality control in the field of plastic additives at Iwaki Plant and Research Center in Kureha Corporation until 2004, except for the period of studying in Bristol University from 1993 to 1995. I have been conducting research and development in the field of, among others, polymerization and characterization of vinylidene fluoride polymers at Research Center since 2004. I am an inventor of U.S. Patents Nos. 6,866,565; 6,995,196; and 6,723,764, in the field of polymerization and composition of plastic additives.